

SPEECH, LANGUAGE, COMMUNICATION, and COGNITION

INPUT	vs	OUTPUT
Understanding	vs	Expressing
speaking, writing nonverbal, senses of smell, touch and taste		spoken, written, nonverbal (e.g., gaze, facial expression, posture, proximity, touch, gestures, pantomime, finger spelling, sign language)

Speech the dynamic neuromuscular activities of sound production and modification; mechanical act of making the sounds for words

Voice sounds produced in the air above the vocal chords as they vibrate and through the changes in position of the articulators (i.e., tongue, teeth, lips, etc.).

Language a code whereby ideas about the world are represented through a conventional and shared set of symbols for communication

- closely linked with cognition (thought)
- used to express and understand needs (transactional/referential/ideational/descriptive) and to express and understand relationships and personal attitudes (interactional/emotive/interpersonal/social-expressive)

Communication process of exchanging thoughts, ideas, emotions (feelings), including acceptability of messages

Communication used for:

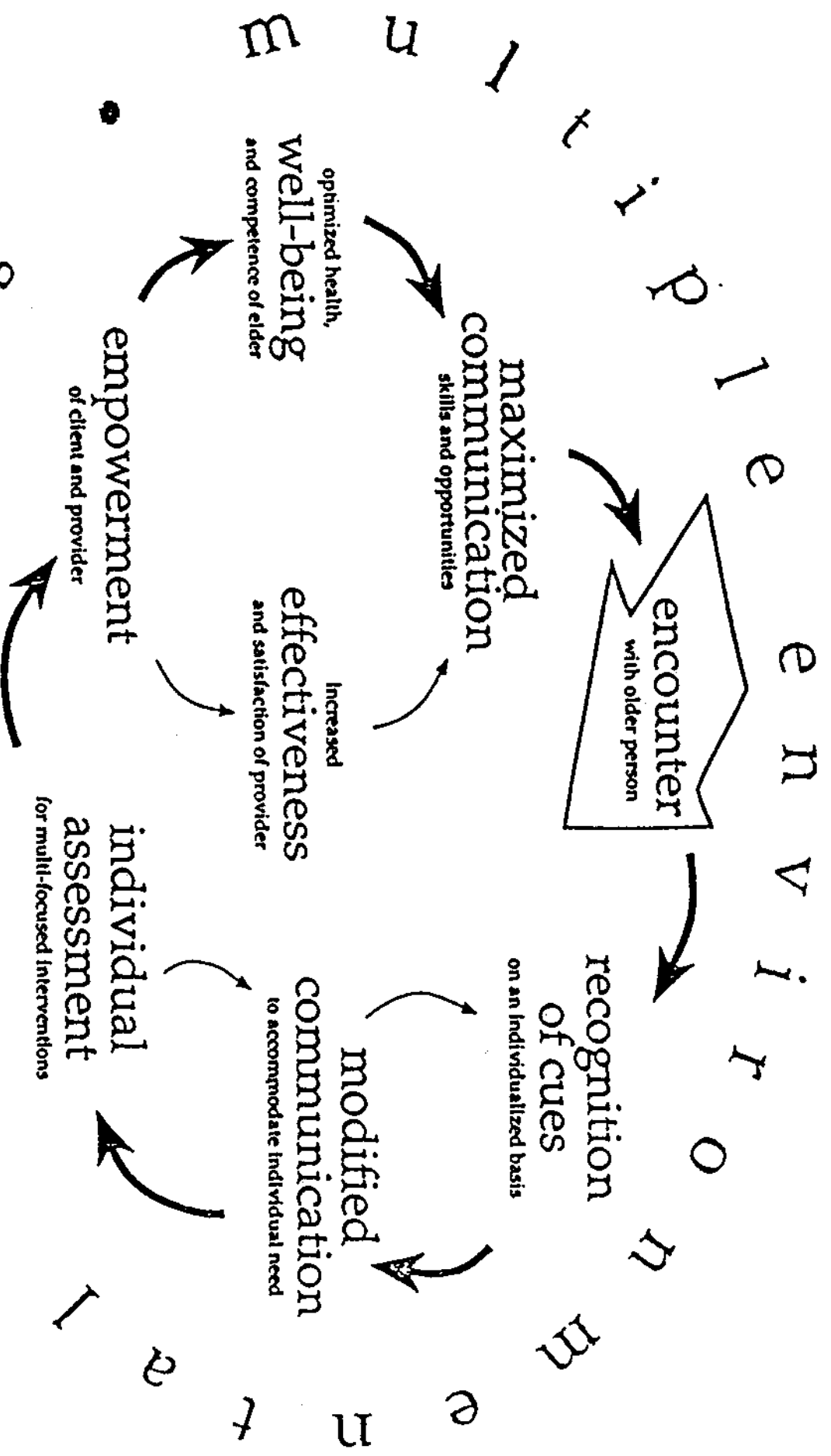
- expressing emotions and sharing memories
- interacting socially and developing a supportive emotional atmosphere
- stimulating awareness and responsiveness to physical and psychosocial environments
- exerting and maintaining control over environments and the nature of care received
- humour
- decision making

Cognition the process of gaining knowledge, organizing new information within one's memory, and using what has been learned

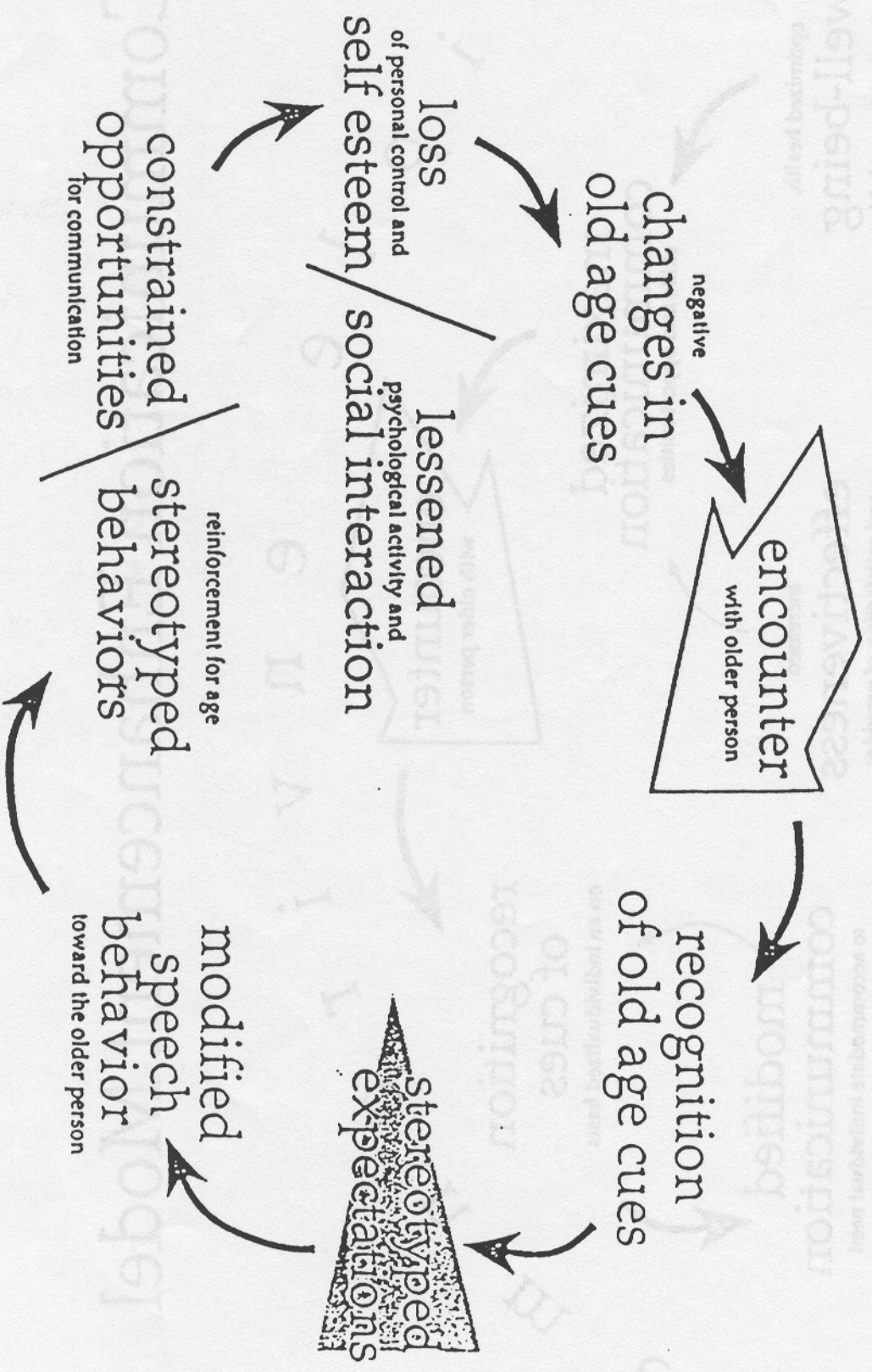
Cognition includes, but is not limited to:

- memory
- attention
- judgment
- reasoning - decision making
- insightfulness

Communication Enhancement Model



The Communication Predicament of Elderly People



PART II: HEARING

It is estimated that over 50% of persons aged 60+ suffer some kind of hearing loss. Also, at least 80% of the elderly in nursing homes have impaired hearing (National Advisory Council on Aging, March, 1990).

Hearing losses can occur for a variety of reasons such as: genetic syndromes, viral infections, aging, tumors, or exposure to noise.

Types of Hearing Loss

Conductive - hearing impairment associated with the outer ear, ear drum, or the middle ear (e.g., problems with three bones, or fluid in the middle ear)

- sounds are softer
- most responsive to use of hearing aid or other assistive listening devices
- may be medically treatable

Sensorineural - hearing impairment associated with problems of the inner ear or the nerve that conducts sound to the brain

- sounds may be distorted rather than softer
- hearing aids may be useful for this type of loss

Mixed

- combination of the above two types

Hearing Aids - See attached diagrams

BTE - behind the ear

ITE - In the ear

ITC - In the canal

CITC - Completely in the canal

FM System - use of a single radio frequency to transmit the speaker's speech to the listener's hearing aid

Strategies for Older Adults with Hearing Problems

Hearing Aid Related

- Trouble shooting to make sure hearing aid is functional:
 - 'O' setting is OFF; 'M' setting is microphone = ON; 'T' setting is for interfacing with telephones; 'NSF' setting is Noise Suppression for use in locations with a lot of background noise
 - hearing aid battery should be placed properly in the aid; a battery lasts approximately 3-4 weeks of everyday use (i.e., 12-16 hours)
 - ensure earmolds (i.e., piece that fits in ear) and tubing (in 'behind-the-ear' and body aids) are free of obstructions (e.g., wax or twists) and seated properly in the ear or on the aid
 - a whistling or high-pitched sound indicates one or more of the following:
 - earmold is not seated properly
 - volume control set at maximum volume
 - hole in earmold tubing
 - aid is working when hand or object is cupped over the aid

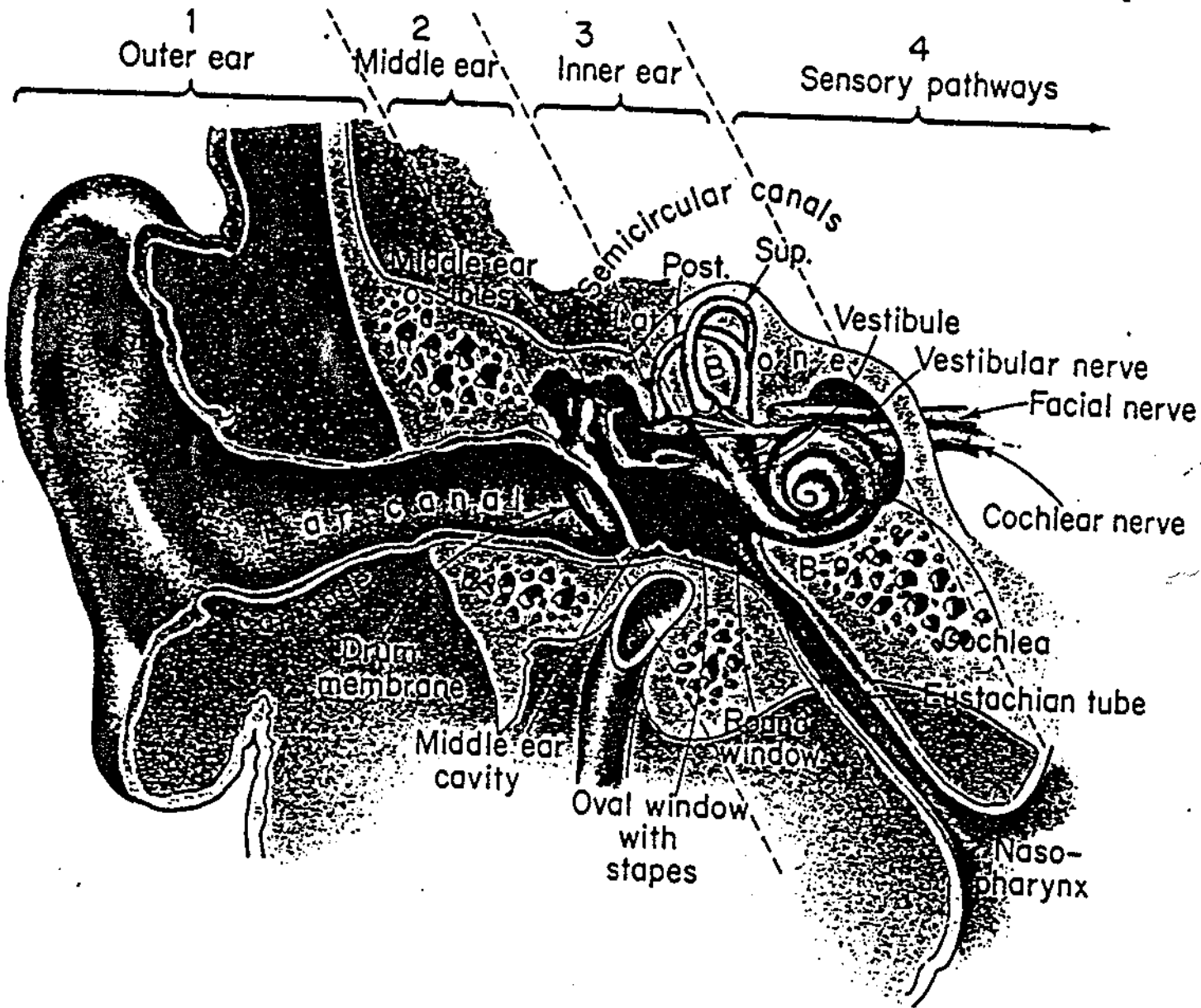
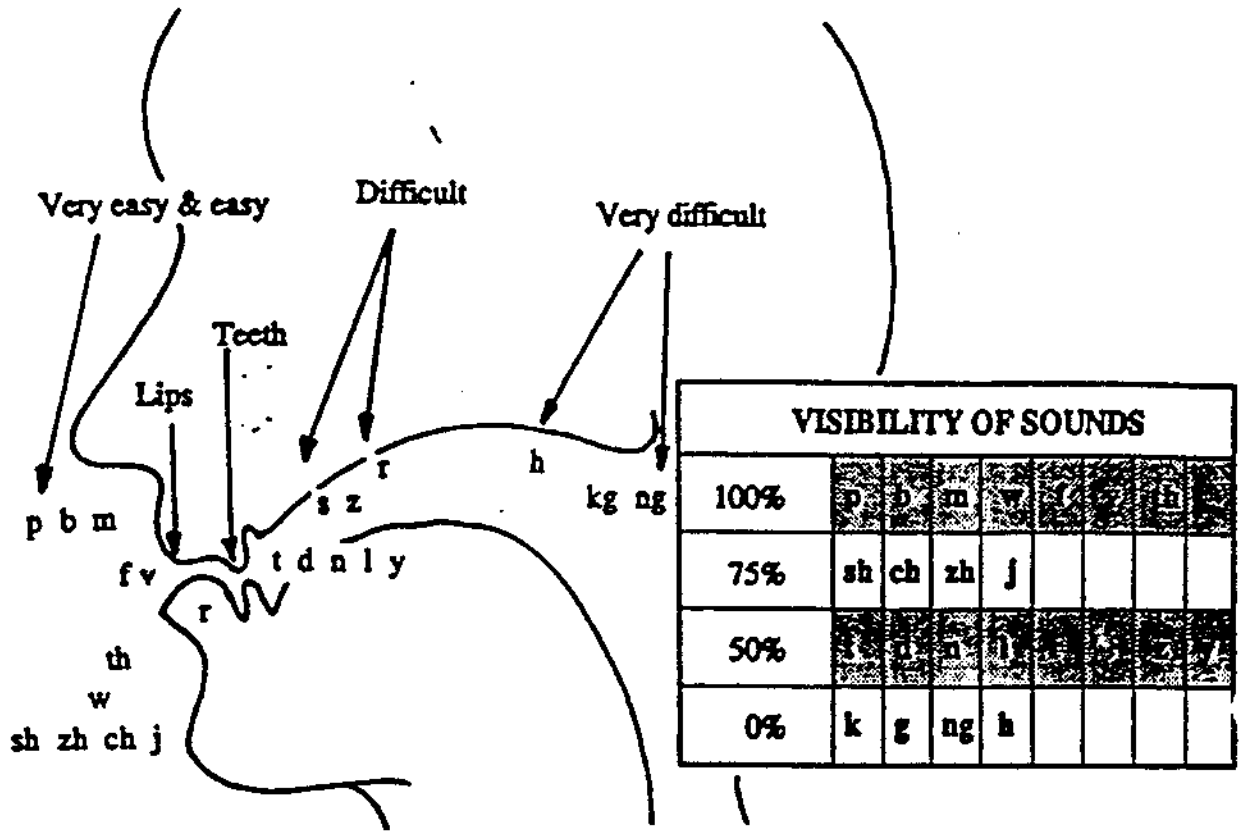


FIGURE 2.1 The human ear.

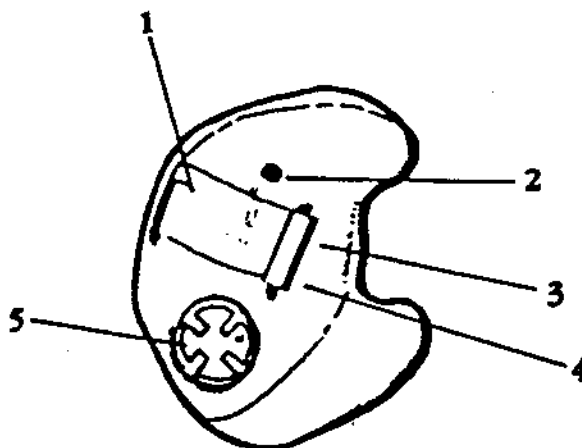
Visibility of Consonant Sounds of Speech



VERY EASY TO SPEECHREAD	EASY TO SPEECHREAD	DIFFICULT TO SPEECHREAD	VERY DIFFICULT TO SPEECHREAD
Lip together: p, b, m	Lips rounded and protruded: sh, zh, ch, j	Lips slightly spread, tongue up behind teeth: t, d, n, l, y	Lips slightly apart: k, g, ng, h
Lower lip to upper teeth: f, v		Lips slightly spread, teeth close together: s, z	
Tongue between teeth: th		Lips puckered, tongue up behind teeth, sides of tongue against side teeth: r	
Lips puckered: w			

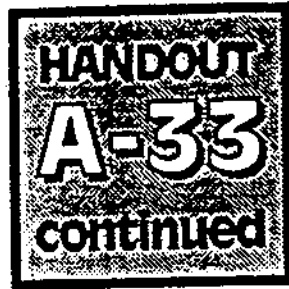


Components of an In-the-Ear Hearing Aid



Key

- | | |
|--------------------|--|
| 1. Battery: | The battery is the power source of the aid |
| 2. Microphone: | The microphone converts sound waves into electrical energy |
| 3. Amplifier: | The amplifier increases the strength of the electrical signal, boosting energy |
| 4. Receiver: | The receiver converts or changes the amplified electrical signal back into sound energy |
| 5. Volume Control: | The volume control allows the wearer to adjust the amplification to the most comfortable level |



<i>Problem</i>	<i>Causes</i>	<i>Solutions</i>
Intermittent sound (aid goes on and off)	<ol style="list-style-type: none"> 1. Battery almost dead 2. Battery contacts corroded 3. Bad volume control switch 4. Moisture in tubing 5. Moisture in aid 	<ol style="list-style-type: none"> 1. Put in new battery 2. Check with hearing aid dispenser 3. Check with hearing aid dispenser 4. Use forced air blower 5. Use dehumidifier overnight; if problem persists, check with hearing aid dispenser.
Feedback (whistling)	<ol style="list-style-type: none"> 1. Earmold not put into ear correctly 2. Earmold does not fit well (too big or too small) 3. Aid not firmly attached to earmold or tubing 4. Volume control turned too high 5. Internal feedback inside the hearing aid case because of defect in aid (see Listening Check) 6. Tubing cracked or has hole in it 	<ol style="list-style-type: none"> 1. Put earmold carefully into the ear so it fits snugly 2. Check with hearing aid dispenser 3. Push earmold or tubing firmly together with hearing aid 4. Turn down volume (but not below its normal setting). 5. Check with hearing aid dispenser 6. Have tubing replaced

PART III: SPEECH PROBLEMS

Normal speech and voice production is the result of five major systems working together:

- 1) The **respiratory system** provides airflow from the lungs
- 2) The **phonatory system** (vocal folds) vibrate the air to produce voice
- 3) The **resonatory system** enriches speech sounds with supplementary vibration of the pharyngeal, oral, and/or nasal cavities (this gives speech an "oral" or "nasal" quality)
- 4) The **articulatory system** shapes specific speech sounds through movements of the lips, teeth, soft palate and tongue
- 5) The **prosodic system** produces the intonation and stress patterns that occur during ongoing speech (e.g., asking a question by using raised inflection at the end of a sentence).

Dysarthria occurs when there is a disruption in one or more of the speech and voice systems

- a generic term used to collectively describe a group of speech and voice symptoms that may result from weakness, slowness, lack of coordination, and altered tone of the speech and voice muscles.
- specific types of dysarthria include flaccid, spastic, ataxic, hypokinetic, hyperkinetic, and mixed dysarthrias
- purely a motor speech and voice impairment
- individuals who present solely with dysarthria will completely understand spoken speech, can read and write (provided there are no physical impairments of the arms and hands)
- individuals with dysarthria won't have trouble with word finding, but their words and voices may sound mildly to severely unintelligible (i.e., hard to understand)

if there is a lot of damage to the motor speech system, the person may present with **anarthria** or the total inability to speak

- estimated that approximately 24.5% of older adults (65 years and older) in nursing homes in the United States have a dysarthric speech impairment (National Center for Health Statistics, 1979).

Common Speech and Voice Symptoms in Dysarthria

PROBLEM

SYMPTOMS

Impaired Articulation

Imprecise or unclear sound and syllable productions

Impaired Speech Rate

Rapid, slow, or irregular speech rate

Impaired Speech Initiation

Difficulty starting to speak

Impaired Voice and Quality

Hypernasal, breathy, hoarse, strained-strangled quality; intermittent or total aphonia (no voice)

Impaired Loudness

Too loud, too soft or intermittent bursts of loudness

Impaired Prosody

Monotone, inappropriate changes in pitch, sound, syllable or word stress problems

From Clark (1993)

Examples of Communication Enhancement Techniques for Speech Specific Disorders

Parkinson's Disease

Problem: Individual's with this disease know what they want to say, how to say it, but the words will not come, or there will be a long delay.

Solution: counting from one to three, or saying "get ready, get set, go" may assist the dysarthric individual in initiating speech. It may take several trials before the individual can successfully initiate speech.

Problem: rapid rate of speech causes speech pronunciation to become imprecise and unintelligible.

Solution: have the individual tap each syllable of a word on their leg or the arm of a chair to slow down the rate of speech. They may also use a pacing board with ridges and grooves where the individual successively touches each coloured groove with a finger, by moving a finger over one ridge to the next coloured groove while speaking only one syllable at a time.

Problem: individuals with Parkinson's may speak very softly, making it difficult to hear them.

Solution: Ask the individual to take deeper breaths and attempt to speak louder. They may need to use a voice amplifier to increase loudness.

Amyotrophic Lateral Sclerosis (ALS)

Since this is a degenerative disease with no known cure, the goal when working with these individuals is to maintain the individual at a functional communication level for as long as possible

In the early stage of the disease the individual may display hypernasal voice quality and mild articulation difficulties. Hypernasality may be lessened by encouraging the individual to open his/her mouth wider while speaking, etc. The individual may also benefit from a palatal lift prosthesis which pushes the back of the throat (velopharynx) into the position it would normally assume to act as a stopper, preventing air from escaping through the nose.

The dysarthric condition in ALS will gradually worsen to the point of anarthria (i.e., total loss of speech) at which time augmentative communication devices should be implemented (e.g., computerized communication systems, synthesized voice, writing and gestures).

PART IV: VOICE PROBLEMS

Voice disorders in older adults should be of concern for several reasons:

1. changes in the way that the voice sounds may be a signal of serious underlying disease conditions;
2. changes in voice may indicate that the individual needs help communicating;
3. voice disturbances influence how well the individual is understood and may contribute to communication breakdowns and threats to functional independence.

- if the resident has undergone a laryngectomy, be sure that you know proper first aid (cardiopulmonary resuscitation) for residents with tracheostomies.
- if the resident with a laryngectomy utilizes a voice prosthesis, be sure that you and the resident know how to help with the cleaning and care of the prosthesis.

From Clark (1993)

PART V: LANGUAGE PROBLEMS - APHASIA

Aphasia is an acquired language disorder which partially or completely affects spoken and written language expression, language comprehension and reading ability

- occurs as a result of damage to the areas of the brain known to control normal language functioning
- varies in type and severity, depending on the site and degree of the brain damage.

Causes of Aphasia

1. Cerebrovascular accident (CVA), also known as a stroke,
 2. head injury
 3. brain tumours
 4. infectious diseases that cause swelling of the brain's tissue
- brain consists of a left and right cerebral hemisphere
 - for many people, their left hemisphere controls most language skills
 - brain damage to the left hemisphere results in various types of aphasia (symptoms differ based on the location of the damage)
 - the right hemisphere contributes (but to a lesser extent) to language functioning, but damage to the right hemisphere does not result in a true aphasic condition
 - Persons with right hemisphere damage display a communication problems (e.g., using language that is appropriate to the context in which they are speaking and with the people to whom they are speaking) as well as the ability to recognize and use the emotional aspects of language (e.g., understanding or using expressions of happiness, sadness, frustration, etc.)

There are many different types of aphasia. Symptoms may be seen independently, or individuals may exhibit a combination of symptoms from various forms of aphasia.

Some of the most common forms are:

Broca's aphasia

- the person exhibits slow, laboured, poorly sounding, speech
- few spoken words; mostly nouns and verbs
- spoken and written grammar are impaired
- the person may exhibit word finding problems
- listening and reading comprehension may be intact, or only mildly impaired.
- the person is highly aware of his/her language impairments
- apraxia of speech and left hemiplegia or hemiparesis (muscle weakness or paralysis on one side) may accompany Broca's aphasia.

Generally, older adults who suffer aphasia will have some recovery of language

- degree and speed of recovered language will vary depending on
 - spontaneous recovery
 - cause of aphasia
 - site and extent of brain damage
 - type and initial severity of the aphasia
 - awareness of the language impairments.

Enhancing Language and Communication for Adults with Aphasia

- enquire about the type of aphasia, the levels of impairment, and retained abilities from speech-language pathologist or consulting physician; this helps focus individualized accommodated communication

Anomia - Word Finding Difficulties

- provide longer periods of time for response(s)
- provide the target word if requested or if person becomes anxious or frustrated
- suggest time-out's following unsuccessful attempts (2-3 tries); acknowledge that both of you are experiencing difficulty and tell person that you will come back later or will return to that topic in a few minutes; remember to get back!
- provide sound, synonym, or sentence completion clues if you think you know word
- ask person to spell, write out, gesture, or use synonym for the target word(s)
- do not speak for the person.
- do not correct the person's word-finding errors.

Other Speaking Problems

- limited or unintelligible verbal output does not mean mental incompetence; do not assume cognitive impairment because of speaking problems
- do not talk about the person in his/her presence.
- with onset of the aphasic condition, people often think they have "lost their mind". Explain to the person what aphasia is.
- do not tell people that their language abilities will be normal again.
- immediately following onset of the aphasic condition, people may revert to using the language that was most familiar to them.
- individuals may become easily fatigued so do not bombard them with too much speech.
- involve people in activities that center around their special interests.
- prevent social isolation from occurring.
- focus on communication of meaning and message rather than on correct word use; do not need to correct person if she/he uses wrong words or has poor grammar
- repeat back what you think the person said to let her/him know what you have (mis)understood
- learn the capabilities or limitations of person's augmentative/alternate communication devices (e.g., computer based communication systems, synthesized voice communication devices, paper printer systems, word/alphabet boards)
- encourage all attempts at communication, even through the use of singing or recitation of stereotyped phrases
- encourage automatic speech responses such as recitation and singing.
- try to mentally fill in the missing grammatical words.

PART VI: DEMENTIA

COMMON COMMUNICATION, LANGUAGE, and SPEECH FEATURES of INDIVIDUALS with DEMENTIA of the ALZHEIMER'S TYPE (DAT)

Dementia: syndrome of acquired, progressive, persistent decline affecting competence in following spheres of mental activity

- | | |
|----------------------------------|--------------------------------------|
| a. memory | d. visuospatial abilities |
| b. language/communication | e. reasoning/judgement skills |
| c. personality | |

- previously thought of as irreversible = non-treatable, although this is changing
- DAT most common form of dementia, accounting for 55-60% of all dementias
- prevalence increases dramatically with age; DAT more common among the poorly educated
- subgroups of DAT (e.g., age of onset, family history, frontal lobe signs, head trauma, maternal age, education)
- language and communication frequently disturbed, estimates range from 88-95% to 100% of all residents
- language, communication, and speech features vary with clinical stage
- heterogeneity (i.e., broad range of skills) within each stage
- communication and language profile in DAT differs from those associated with:
 - . normal aging
 - . confusion or delirium
 - . aphasia
 - . psychiatric disorders (e.g., schizophrenia)
 - . depression
 - . right hemisphere dysfunction
 - . other focal neurological disorders and syndromes
 - . closed head injury (e.g., motor vehicle accident)

Several different types of dementia, including, but not limited to:

1. vascular dementia (also previously known as multi-infarct dementia)
2. mixed dementia (combination of DAT and vascular dementia)
3. Pick's disease
4. frontal lobe dementia
5. Korsakoff's dementia
6. Creutzfeldt-Jacob disease

MIDDLE CLINICAL STAGE

- individual is less aware of speech, language, and communication difficulties

OUTPUT	Characteristics
Speaking	<p>pronounced word finding problems; circumlocution; meaning and sound related errors limited vocabulary empty and irrelevant utterances (e.g., words such as thing, this, and that often used in place of substantive nouns) less information conveyed; may not identify clearly to whom or to what they are referring uses automatisms a lot (i.e., social greetings) sentence fragments frequently repeats words, utterances, and ideas problems engaging in and maintaining conversation cannot tell a coherent story; focuses more on secondary than primary details when describing a picture or (re)-telling a story disinhibition; inappropriate utterances (i.e., poor sensitivity to context and partner) digresses and rambles; poor topic maintenance egocentric talk (i.e., talks mostly about self) attempts to correct own speaking errors; sometimes let you know that they do not understand errors repeating infrequently occurring words reading aloud relatively good some errors in grammar</p>
Writing	<p>lacks content poor word order and grammar may only be able to write own name</p>
Nonverbal	pantomime poor; gesture use mildly impaired
INPUT	
Listening	<p>answers single questions moderately well problems with simple commands may be lost in multi-partner conversations recognizes questions; can answer yes/no questions problems with simple, frequently occurring words and utterances</p>
Reading	<p>comprehension limited to single, frequently occurring words substitutes words and produces nonsense terms when reading aloud</p>
Nonverbal	pantomime poor; gesture comprehension mildly impaired

INTERVENTION ISSUES for COMMUNICATING with INDIVIDUALS with DAT

- not a cookbook approach
- some strategies that work well at one time may not work for the same problem at a later time
- most strategies rely on common sense
- you need to become a problem solver
- few studies have empirically examined the effects of communication intervention in dementia
- use resident's preserved speech, language, hearing, communication, emotional, and cognitive skills to optimise communication; capitalise on resident's strengths - minimise effects of deficits/weaknesses

A. Must ask yourself:

- 1a. What are the communication goals of the **resident**?
- 1b. What does the **resident** want to accomplish with communication?
- 2a. What are my communication goals as **caregiver**?
- 2b. What do I as **caregiver** want to accomplish with my communication?

B. Intervention Considerations

- train new communicative behaviours in resident with dementia? **NOT AT PRESENT**
- maintain present levels of functional communication for as long as possible (optimise residual functions)? **YES**
- modify physical aspects of person (glasses/hearing aids; assessments of vision and hearing)? **YES**
- modify communicative behaviour of family and formal caregivers? **YES**
- modify physical aspects of family and formal caregivers (glasses/hearing aids; assessments of vision and hearing)? **YES**
- modify environments (i.e., physical and psychosocial)? **YES**
- modify perceptions and attitudes of family and formal caregivers concerning communication with cognitively impaired older adults? **YES**
- reduce communication related stress and burden for caregivers? **YES**

4

COMPONENTS of a COMPREHENSIVE COMMUNICATION ENHANCEMENT PROGRAM for INDIVIDUALS with DEMENTIA of the ALZHEIMER'S TYPE

LANGUAGE

- listen primarily for meaning related words (e.g., **car vs bus**), resident may use sound related words/rhyming words on occasion (e.g., **cap vs cat**); the word(s) may make sense if you consider a similar word(s) or meaning
- word modifiers (e.g., **blue, slowly**) are more difficult for resident to remember to say than nouns
- you may have to select from one of many possible interpretations of resident's words or phrases, especially if terms are emotionally charged (e.g., **I need to see my wife/husband/mother/father, You're not my wife/husband/daughter/son, I need to go home**), also see **EMOTIONS**
- you must strip away empty phrases to achieve meaning
- you may wish to say the target word(s) the resident is unable to recall; provide the word(s) in a respectful manner; however, it is best not to repeatedly correct or to always supply the target word(s)

- use of references to maximise coherence
 - ask resident identify specific referent for definite (e.g., **he, she, them**) and indefinite pronouns (e.g., **all, someone, everybody**)
- * **if the resident constantly repeats ideas: distract by changing the topic, the task (do something physical), or validate feelings (e.g., **You say you want to go home. You must miss your home. Tell me about your home.**)**

- ask resident to use writing/printing to assist speaking
- provide illustrations or written clues about what you are talking

- native (L1) language issues - English as a Second Language (ESL), may revert to earlier learned language (code switching)
 - use family members, friends or other staff familiar with resident's native language to act as translator; consider learning some of the social phrases in the resident's native language
- reading aloud usually better preserved than reading comprehension; you may want the resident to read out loud to you as you do your chores
- auditory comprehension over phone typically poorer than in person

- be concrete and direct; limit use of abstract/indirect idiomatic talk, e.g., **Do you want your green sweater? vs It sure is cold in here.**
- beware, however, that the resident may translate terms literally; this may create further confusion, e.g., **Wet floor, Hop into/out of bed, Let's take a spin in the car/walker/wheelchair, Let's head out, Did he give you the cold shoulder?**

- avoid sarcasm and double meaning; may create further confusion
- use concrete or slapstick humour to diffuse difficult situations, no play on words
- use frequently occurring vocabulary; limit technical terms and jargon

use RB sentences versus LB: memory (distance) considerations
 memory cues should be redundant and encourage recognition rather than recall
 get attention before speaking - see NONVERBAL

- caregiver has to be external memory trigger, cannot assume resident will search own memory and use internal activators
- confabulation (i.e., made-up/untrue stories) by the resident may be apparent; the resident's problems using the correct name of a person (i.e., anomia), or remembering details of people, places, or events may lead to improbable stories; do not confront middle or late stage residents with the improbability
 - autobiographical memory may have several different representations of the 'real event(s)', each of which may be suitable for different audiences (to whom they tell the story) and for different purposes; people reconstruct their lives in different ways at different times
 - stories may be a composite of several events, locations, or characters which have been merged/meshed into one story at a given point in time
 - view person as a storyteller rather than as someone who is unable to recount factual information; this helps resident maintain their self-identity and self-worth (see PERSONALITY)
- focus on therapies which require little mental flexibility or learning
- consider using memory wallets containing personally relevant background information and labelled pictures (see Bourgeois, 1990; 1991; 1992a; b; 1993; 1994 for discussion of usefulness of memory aids)
- talking about the **here and now**, especially if you provide pictures and/or objects, or talking about events which occurred **long ago** may be better than talking about recent events
- seek counselling regarding close relationships among memory, linguistic functions, social skills and behaviour, ADL, IADL, dysfunctional behaviours (e.g., outbursts of anger, inappropriate sexual behaviour, aggressive behaviour, paranoia, mood swings)
- seek counselling regarding resident's limited capacity to learn new ideas/concepts and to transfer and maintain improved skills in new contexts
- 'therapeutic lying' - see EMOTIONS for discussion

SPEECH

- slow, clear articulation
- voice should never be harsh, abrupt, hurried but rather calm, soothing, and at a lower pitch
- speak slowly (e.g., pauses between clauses, phrases, or words); fast speaking rate is 200 words per minute, normal rate is 150-180 words per minute; speaking slowly reduces the amount of on-line mental energy needed to process information
- use stress and pauses to highlight important information and to emphasise meaning, e.g., Shall we WALK [pause] to the TUCK SHOP [pause] or to the LOUNGE?
 e.g., re'cord versus rec'ord
- make intonation patterns obvious; clearly signal question, declarative, or imperative, beware over-accommodated communication style including secondary baby-talk' and 'institutional talk' - See PERCEPTIONS & ATTITUDES: STEREOTYPES
- loudness should be appropriate for the context; if too loud, distorts signal

'Communication Impaired Environment' (Lubinski, 1991)

- a setting of few opportunities for successful, meaningful communication characterized by:
 1. lack of sensitivity to value of communication
 2. rules which restrict quantity and quality of communication
 3. lack of viable communication partners
 4. few reasons to talk
 5. lack of privacy
 6. limited accessibility
 7. limited sensory stimulation
 8. perceived lack of self-worth by others
 9. communication perceived by others as valueless

- A. External Environments**
- A.1. Physical**
 - consider fire and safety codes for location in building in which you are communicating
 - limit the number of conversation partners, especially those who are unfamiliar
 - lighting optimal, ambient noise minimal; use contrasting primary colours (i.e., not pastel shades) including large black and white lettering
 - avoid competing messages such as blaring noise from radio, television, nursing station, street, or loudspeaker system
 - keep smells acceptable and temperature optimal
 - furniture considerations, e.g., shape of tables (round - invites, facilitates, and helps maintain interaction), mobility, accessibility, arrangement, and composition
 - consistency of locations, i.e. personal, private-intimate, accessible, territorial
 - decor of locations aesthetically pleasing and stimulating, e.g., Are windows present? or minimalist in decor
 - familiar context and orienting cues, e.g., family pictures easily accessible, own clothing, own furniture; use props from previous work or hobbies to engage person in activities
 - environments should promote activity (i.e., personally relevant crafts and activities)
- A.2. Psychosocial**
 - provide opportunities to communicate with non-cognitively impaired individuals, staff, relatives, and friends
 - establish familiarity of participants and the physical environment
 - promote and integrate communication beyond ADL, i.e., not minimalists
 - topic selection problems because of lack of mutual knowledge
 - rejection of cognitive problems signals rejection of person
 - promote residents as active interactants rather than passive recipients

- B. Internal Environments**
 - consider resident's personal qualities, work experiences, and the nature of their relationships with family members when selecting conversation topics
 - consider what are or were the social roles of the resident to help establish suitable interaction patterns

you took to Calgary. The trip that you and Joe your friend took to Calgary to work on a cattle ranch!

A.3. Maintaining

- nominalization, redundancy, repetition, topic reminders, topic summarisation, retrenchment, extenders
- topic distraction for perseveration and repetition of ideas
- **repetitions: distraction (singing familiar song or story), use recipe cards with written statements to frequently occurring questions or answers, or use validation of feelings**
- guide the conversation onto a specific topic and redirect the conversation back onto the topic when the resident begins to ramble
- help sustain the conversation using sentences that continue the topic or by asking for more information about what the resident has just said, e.g., **Tell me more about ___!** or **So the police then chased the bootleggers. What happened next?**
- remind the resident about what you have just talked about to help keep them on the topic (i.e., topic reminders and summarisation of what was just said)
- clearly identify who you are talking about by using a person's name rather than pronouns (e.g., **Bill vs he, Shelley vs she, Bill and Shelley vs they**)
- change your own frame of reference with respect to the topic if you do not follow what the resident is talking about; that is, do not persist with a single interpretation of what is said; instead, think of alternate interpretations of the people, places, or events that they might be discussing

A.4. Shifting or changing

- sometimes linking ideas from the previous topic with the new topic is useful, other times it may be better to tell your resident that you are now talking about a different topic - See Topic Introducing
- change: See Introducing; verbally acknowledge change
- do not change the topic too often or too quickly, it may confuse the resident
- sometimes distracting the resident from a particular topic may help to minimise their repetitive talk

B. Taking turns

- use clear language, and nonverbal and speech cues to signal your partner's turn, e.g., **Now it's your turn., What do have to say about that?, point to your partner or nod your head to signal that it is their turn, look at your partner, clearly drop or raise your pitch at the end of a sentence, increase the pause time at the end of a sentence**
- use short turns to talk about one idea at a time
- minimise long turns and lengthy, stories and explanations

C. Correcting Misunderstandings

C.1. Signals identifying a misunderstanding

- use words which indicate your possible understanding of what was said or use specific requests for information which help clarify the problem or help specify an answer, e.g., **Do you mean Hannah?, What does ___ mean?, Please say that again differently., Say that again slowly., I don't know what you mean by __., Please explain it further.**

- be sure to consult with the prescribing physician(s), the dispensing pharmacist, and well-recognised, published scientific literature to establish:
 - the effects of the resident's medications on speech, language, hearing, and cognitive skills
 - side-effects of the medications that might otherwise influence communication
 - the interactions of multiple-drugs on speech, language, hearing, and cognition
 - the effects of changes in diet, activity levels, or mental operations for example, which might influence drug effects or drug compliance

COMMUNICATION STYLE

- communication is a fundamental aspect of being human; it shapes personal identity (i.e., personality) and establishes self-worth and dignity
- personal appearance (e.g., clothes, personal hygiene, hair-style, make-up, etc.) helps maintain a self-identity; provide options for the resident and the family to help maintain the person's dignity and self-identity
- you should take into consideration the impact of your communication style and that of the resident
- characteristics that support positive communication include:

accepting	honest	reassuring	sincere	resident
respectful	tolerant	non-judgmental	warm	courteous
good-natured	kind	relaxed	persuasive	interested
not nagging	consistent	attentive	empathetic	matter-off-fact
- other considerations of communication style include:
 - outgoing versus introvert
 - highly verbal versus not verbal
 - good versus bad listener
 - interrupter versus methodical listener and speaker
- see Santo Pietro (1994) for more discussion of communication style

EMOTIONS

- ** respond to the **message not the words**; the words may give one message (e.g., anger) but the real meaning may be one of fear or frustration (See Feil's description and use of Validation Therapy)
- ** words or phrases may have many possible interpretations, especially if terms are emotionally charged, e.g., **I need to see my wife/husband/mother/father, You're not my wife/husband/daughter/son, I need to go home.**
- use pictures/photos from family albums, video or audio tape recordings of family, relatives, vacations, or personally relevant music to soothe and comfort agitated residents
- identify and acknowledge for yourself and for the resident the isolation, loneliness, and loss related to impaired and/or reduced frequency of communication
- use an empathetic tone to understand feelings of loneliness, anxiety, helplessness, and to acknowledge visual and auditory hallucinations
- provide opportunities to express anxieties and frustrations concerning communication changes and associated stresses
- identify communication related aspects of stress for yourself and seek help from others (i.e., relatives, friends, professionals) who may be able to offer helpful suggestions to reduce this

ATTITUDES: STEREOTYPES

- research on the speech, language, nonverbal, and conversation forms used in communication among older adults (intra-generational) suggests the use of more supportive types of talk; however, Personality, Emotions, Gender, Ethnicity, Education, Roles and Relationships, and several other factors, may influence the success and satisfaction of their communication
- young professional caregivers may rely on cohort experiences and language forms that are unfamiliar to older adults, some of whom may be 30, 40, and 50 years older than the caregiver

CULTURE and ETHNICITY

- caregivers and those whom they serve may be from different cultural and ethnic backgrounds that may create (or for that matter breakdown) barriers along language, religious, cultural, and social dimensions
- different cultural values and ethnic and racial prejudices by caregivers, persons with dementia, and their family members foster a negative environment in which to communicate; identify and help eliminate these prejudicial perspectives (see also **PERCEPTIONS and ATTITUDES: STEREOTYPES**)
- provide cultural cues to make environment familiar and reassuring, **e.g., language, communication style, beliefs and attitudes, ethnic clothes, music, and art, religious symbols**
- caregivers need to be sensitive to cultural values that manifest themselves in the form of different languages, gestures, and manner of communication (e.g., direct and prolonged eye contact may be an impolite aspect of communication, asking direct questions may be frowned upon)
- family members can act as mediators/translators as well as sources of information for caregivers on how to communicate successfully with those whom they serve

EDUCATION

- the years and location (i.e., foreign country) of formal education and general knowledge levels may influence how language is used and what is understood (e.g., familiarity with technical terminology)
- be aware that your education gives you access to information that may be unfamiliar to others; minimise use of jargon, speak slowly, ask if partner understands information or has any questions about the material, use written material to augment spoken information, provide written material that is suitable for level of education

ROLES and RELATIONSHIPS

- roles change with aging (i.e., retirement, no longer parent but possibly grandparent, fewer social responsibilities) and influence the number and type of social activities and the place of older adults within society
- fewer roles may mean fewer social contacts (or for that matter MORE!); communication opportunities may be reduced or enhanced by changes in roles
- caregivers may view themselves in the role as primary careprovider rather than as facilitator of independent care; support a role of independence in individuals with DAT through the use of Language, Speech, Nonverbal, and Conversation strategies, e.g., **minimise completing sentences when person experiences difficulty finding the right word, do not speak in front of individuals as if they are not there, use the person's name rather than pronouns 'You', 'He', 'She'**

Variables influencing learning

- sensory perception, energy levels, memory, motivation, cautiousness, response time, attitudes/stereotypes

GROUP WORK (see Clarke & Witte, 1991)

Goals are to:

- maintain social connectedness, help retain or recognise social skills
- optimise social awareness of their behaviour and their orientation to time and place
- stimulate and promote remaining cognitive, communication, and social skills; build self-esteem
- slow deterioration of language and communication skills; **the speculation at the present time is that this can be accomplished; empirical evidence is required to support this claim**
- opportunities for feedback regarding usefulness of various trained or practised strategies,
e.g., circumlocution - talking around target word
- vent anxiety and stress
- re-socialisation, e.g., recreation, craft activities, reminiscence, ADL activities
- small group (no more than 6) of familiar individuals (similar or mixed skills; depends on goals)
- meet frequently for (1x daily) for short periods (30-40 minutes)
- group leader guides turn-taking, topics, attention of members
- members may keep notebook of adaptive and facilitative strategies
- themes focus interactions (e.g., life span, decade summary, reminiscence, Validation Therapy, world events)
- use ADL activities to stimulate residual language skills and conversational interactions
e.g., making meals, baking, self-care activities
- consider using memory wallets containing personally relevant background information and labelled pictures (see Bourgeois, 1990; 1991; 1992a; b; 1993; 1994)

A. Eligibility Criteria for Participants

- early and some middle clinical stage individuals
- responds to some basic external memory strategies
- still uses logic and exhibits problems solving abilities
- oriented to person and place
- aware of and expresses concern over communication changes
- active social communicator, willingness/desire to interact
- word finding problems primarily
- uses pronouns without always identifying referent(s)
- mild auditory comprehension deficits for long and syntactically complex utterances
- intact syntactic and phonological skills
- relatively preserved pragmatic skills
- topic drifter in conversation
- provides unnecessary details in conversations

Glossary

A

activities of daily living (ADL): Refers to basic self care activities including feeding, washing, dressing, transfers, and mobility. Occasionally this may be used more broadly to refer to self care, productivity and leisure activities.

Alzheimer's disease: A mid-to-late life acquired, progressive, persistent degeneration in several spheres of mental activity including memory, language and communication, personality, visuospatial skills, and orientation; most common type of dementia.

aphasia: A language disorder syndrome caused by focal cortical and/or subcortical lesions (most frequently a stroke or CVA) to the language dominant cerebral hemisphere; characterized by impairments in verbal and written expression and listening and reading comprehension; excludes motor speech disorders such as dysarthria and apraxia of speech, and cognitive-communication disorders resulting from dementia and traumatic brain injury.

apraxia of speech: A neuro-motor planning/co-ordination problem in speech production related to impaired capacity to programme the position of speech musculature and the sequencing of muscle movements for the volitional production of sounds; is not based on cognitive-impairments, listening comprehension difficulties, inattention, abnormal reflexes, impaired visual or tactile perception, or muscle paralysis or paresis; characterized by inconsistent speech production errors, sound groping especially at the beginnings of words, better involuntary versus voluntary production, and errors of complication predominate; often co-occurs with Broca's aphasia.

audiogram: A graphic representation of the minimum detectable level of a sound (threshold) as a function of sound frequency. Usually expressed in decibel (dB) hearing level (HL,) where 0-20 dB HL is considered as the "normal" range of hearing thresholds.

augmentative and alternate communication (AAC): Approaches designed to support, enhance, supplement (i.e., augment) (e.g., gestures or pantomime) or replace (i.e., alternate) (e.g., word or picture boards, computer-based communication systems, sign language) existing modes of communication for individuals who are not independent spoken communicators.

aural rehabilitation: Treatment for a hearing-impaired person, such as counselling, speech reading, strategies for improving communication, hearing aid orientation, environmental changes, and positive assertiveness training.

B

behind-the-ear (BTE) hearing aid: A two part hearing aid that consists of an individually fit earmold which is inserted in the ear canal, and the hearing aid itself, that is attached to the earmold by a length of flexible tubing and rests above and behind the pinna (i.e., cartilaginous outer ear).

bilingualism: The ability to speak two languages fluently.

dementia: An organic syndrome of acquired, persistent impairment in memory, language, perceptual, cognitive, and ultimately motor function.

dementia syndrome of depression (pseudodementia): Sometimes referred to as pseudodementia; a condition resembling a dementia but is due to a depressive disorder rather than a true dementia.

depression: A treatable/reversible illness characterized by feelings of sadness, hopelessness and helplessness, and often a change in sleeping, eating, and elimination patterns and energy level/fatigability. Often expressed as somatic complaints in older adults (e.g., pain, constipation). Can co-occur with dementia.

dysarthria: A motor speech production problem due to central or peripheral nervous system involvement; impairment in one or more of respiration, phonation (vocal fold vibration), resonance, articulation, and prosody (i.e., speaking rate, pitch, intonation, sound/syllable stress, sound duration); Parkinson's disease, multiple sclerosis, amyotrophic lateral sclerosis produce different types of dysarthria.

dysphagia: Problems swallowing.

E

edentulous: Loss of one's natural teeth.

ENT: A physician in specialized practice for ear, nose, and throat disorders; also called an otolaryngologist or otorhinolaryngologist.

expressive language: Use of speaking, writing, gestures, pantomime, sign language, or AAC assistive device to communicate one's perceptions, ideas, or feelings.

G

geriatrics: Domain of medicine concerned with the medical problems of older adults.

gerontology: The study of the aging process and the elderly, a sociological perspective.

H

handicap: Societal barriers to assuming normal activities, due to impairment or disability.

hard-of-hearing (adj.): Reference to a person who has a hearing impairment but communicates primarily through aural/oral means (cf. deaf).

hearing impaired (adj.): Reference to a condition in which hearing thresholds exceed 20 decibel (dB) hearing level (HL) or significant difficulties in hearing.

hemiparesis: Muscle weakness of one side of the body.

Parkinson's disease: A neurological, chronic, progressive, degenerative disease resulting from deficiency of the neurotransmitter dopamine in the basal ganglia; characterized by rhythmical resting tremor, rigidity of movement, festination of gait, droopy posture, and mask-like faces; end stages can involve dementia.

polypharmacy: The situation when an individual is taking multiple medications, both prescription and over-the-counter.

presbycusis (presbycusis): Hearing loss associated with the aging process; usually affects high frequency hearing initially.

primary language (L1): The language which a person first learned and spoke as a child and the language in which he/she continues to be fluent.

prosody: Measurable characteristics of speech production including pitch and pitch changes of sounds (e.g., high versus low frequency of sounds), rate of speaking (e.g., fast, medium, slow), stress on sound(s) or syllable(s), length of time sound(s) spoken, and loudness of sound(s).

psychosocial: Pertaining to both psychological and social realms of an individual and his/her environment. It may include internal elements, such as affect (mood) and cognition, as well as external elements, such as friend and family relationships or interpersonal skills.

R

receptive language: Listening and reading understanding, and comprehension of nonverbal behaviours.

S

secondary language (L2): A language, other than the primary language (L1), spoken and understood by a person.

sensorineural hearing loss (SNHL): Hearing loss caused by damage to the cochlea or neural pathways. Not usually remediable by medical intervention.

speech: Comprised of A) 1. speech perception and 2. production; B) 1. Identification, interpretation, and organization of auditory sensory data; 2. the complex, neurodynamic aspects of sound generation involving respiration, phonation (i.e., voicing), resonance, articulation, and prosody.

spontaneous language: Language produced (spoken, written, non-verbal) in non-prompting conditions.

stoma: The small opening or artificial opening between cavities or canals; for example, opening made into the trachea during a laryngectomy.

stroke (see CVA)

Selected Readings on Communication Enhancement for Older Adults

Arkin, S.M. (1992). Audio-assisted memory training with early Alzheimer's residents. Clinical Gerontologist, 12, 77-96.

Arkin, S. M. (1996). Volunteers in partnership: An Alzheimer's rehabilitation program delivered by students. American Journal of Alzheimer's Disease, 11, 12-22.

Baltes, M. M., Neuman, E. M., & Zank, S. (1994). Maintenance and rehabilitation of independence in old age: An intervention program for staff. Psychology and Aging, 9, 179-188.

Bayles, K. A. (1994). Management of neurogenic communication disorders associated with dementia. In R. Chapey (Ed.), Language intervention strategies in adult aphasia (3rd ed.) (pp. 535-545) Baltimore: Williams & Wilkins.

Bayles, K. A., & Tomoeda, C. K. (1993). The ABC's of dementia. Tucson, AZ: Canyonlands Publishing Inc.

Bayles, K. A., & Tomoeda, C. K. (1995). Understanding & caring for dementia residents: A series (audio tape series). Tucson, AZ: Canyonlands Publishing, Inc.

Benjamin, B. J. (1995). Validation therapy: An intervention for disoriented residents with Alzheimer's disease. Topics in Language Disorders, 15 (2), 66-74.

Bleathman, C., & Morton, I. (1992). Validation therapy: Extracts from 20 groups with dementia sufferers. Journal of Advanced Nursing, 17, 658-666.

Boczko, F. (1994). The Breakfast Club: A multi-modal language stimulation program for nursing home residents with Alzheimer's disease. American Journal of Alzheimer's Care and Related Disorders & Research, 9 (4), 35-38.

Bohling, H. R. (1991). Communication with Alzheimer's residents: An analysis of caregiver listening patterns. International Journal of Aging and Human Development, 33, 249-267.

Bourgeois, M. (1990). Enhancing conversation skills in resident's with Alzheimer's disease using a prosthetic memory aid. Journal of Applied Behavior Analysis, 23, 29-42.

Bourgeois, M. (1991). Communication treatment for adults with dementia. Journal of Speech and Hearing Research, 34, 831-844.

Bourgeois, M. (1992a). Evaluating memory wallets in conversations with persons with dementia. Journal of Speech and Hearing Research, 35, 1334-1357.

Bourgeois, M. (1992b). Conversing with memory impaired individuals using memory aids. Gaylord, MI: Northern Speech Services.

Bourgeois, M. (1993). Effects of memory aids on the dyadic conversations of individuals with dementia. Journal of Applied Behavior Analysis, 26, 77-87.

Bourgeois, M. (1994). Teaching caregivers to use memory aids with residents with dementia. Seminars in Speech and Language, 15, 291-305.

Kreps, G. L., & Kunimoto, E. N. (1994). Effective communication in multicultural health care settings. In W. B. Gudykunst & S. Ting-Toomey (Eds.), Communicating effectively in multicultural contexts: Vol. 3 (pp. 1-134). Thousand Oaks, CA: Sage.

Lubinski, R. B. (1991). Environmental considerations for elderly residents. In R. B. Lubinski (Ed.), Dementia and communication (pp. 257-278). Philadelphia: Mosby.

Lubinski, R. B. (1991). Dementia and communication. Philadelphia: Mosby.

Lubinski, R. (1981). Environmental language intervention. In R. Chapey (Ed.), Language intervention strategies in adult aphasia. Baltimore: Williams & Wilkins.

Mace N. L., & Rabins, P. (1991). The 36 hour day (Chpts. 3 & 6). Baltimore: Johns Hopkins University Press.

Orange, J.B., & Colton Hudson A. (in press). Enhancing communication in dementia of the Alzheimer's type: Caregiver education and training. Topics in Geriatric Rehabilitation.

Orange, J. B., Molloy, D. W., Lever, J. A., Darzins, P., & Ganesan, C. R. (1994). Alzheimer's disease: Physician-resident communication. Canadian Family Physician, 40, 1160-1168.

Orange, J.B., & Ryan E.B., (1995). Effective communication. In B. Pickles, A. Compton, C. Cott, J. Simpson, and A. Vandervoort (Eds.). Physiotherapy with older people (pp. 119-137).

Orange, J. B., Ryan, E. B., Meredith, S. D., & MacLean, M. J. (1995). Application of the communication enhancement model for long-term care residents with Alzheimer's disease. Topics in Language Disorders, 15, 20-35.

Ostuni, E., & Santo Pietro, M. J. (1991). Getting through: Communicating when someone you care for has Alzheimer's disease. Vero Beach, FL: The Speech Bin.

Pinkston, E. M., (1994). Behavior management training for caregivers of residents with dementia. Seminars in Speech and Language, 15, 280-290.

Pollack, N. J., Namazi, K. H., Dolan, C., & Hill, H. (1992). The effects of music participation on the social behavior of Alzheimer's disease residents. Journal of Music Therapy, 29, 54-67.

Powell, J. A., Hale, M. A., & Bayer, A. J. (1995). Symptoms of communication breakdown in dementia: Carers' perceptions. European Journal of Disorders of Communication, 30, 65-75.

Rau, M. T. (1993). Coping with communication challenges in Alzheimer's disease. San Diego: Singular Publishing Group.

Richter, J. M., Bottenberg, D., & Roberto, K. A. (1993). Communication between formal caregivers and individuals with Alzheimer's disease. American Journal of Alzheimer's Care and Related Disorders & Research, 8 (5), 20-26.

Ripich, D. N. (1994). Functional communication with AD residents: A caregiver training program. Alzheimer Disease and Associated Disorders, 8, (3), 95-109.